

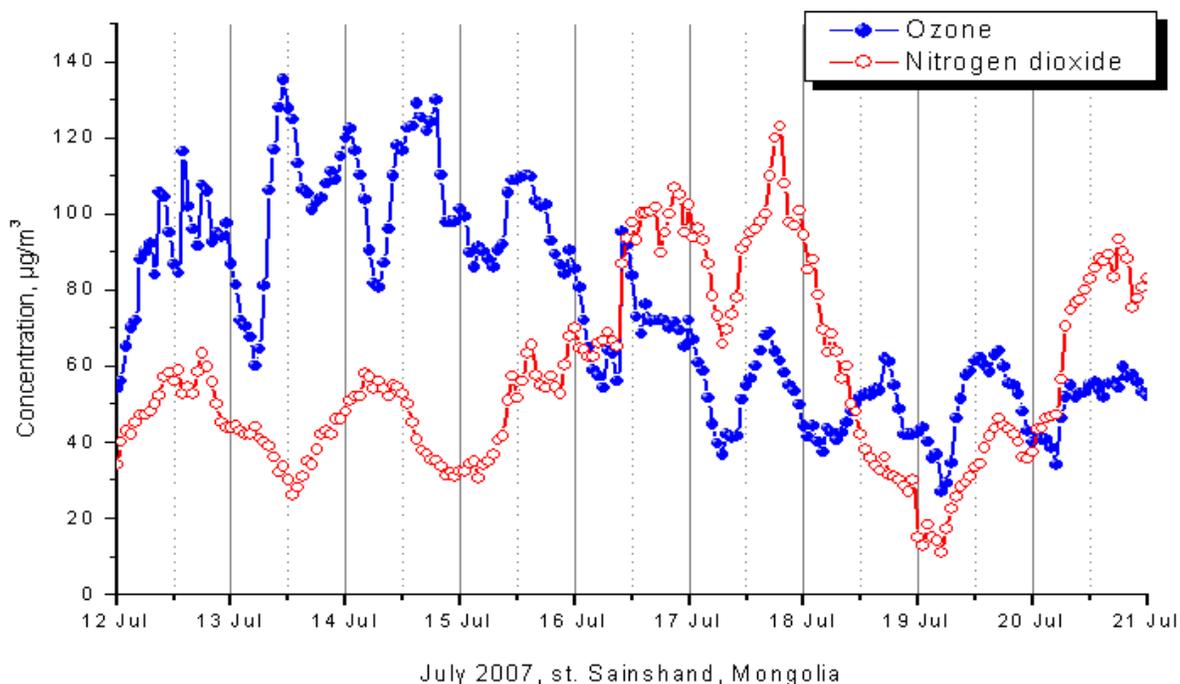
## Trace Gases Measurement Results of Russian-Mongolian Expedition in the Arid and Semi-Arid Region of Mongolia

G.S. Zhamsueva<sup>1</sup>, A.S. Zayakhanov<sup>1</sup>, V.V. Tsydygov<sup>1</sup>, A.A. Ayurzhanayev<sup>1</sup>, D. Oyunchimeg<sup>2</sup> and D.Azzaya<sup>2</sup>

<sup>1</sup>Department of Physical Problems of Buryat Science Centre, Ulan-Ude, Russia; +976-11-326614, E-mail: oyunchimeg\_du@yahoo.com

<sup>2</sup>Climate Change and Environmental Research Center, Institute of Meteorology and Hydrology, Ulaanbaatar, Mongolia

The scientific expedition of the Buryat Science Centre of the Russian Academy of Science and the Institute of Meteorology and Hydrology of Mongolia has worked in the Mongolian arid and semi-arid desert region (Sainshand) during summers from 2005-2008. We have measured surface ozone, NO<sub>2</sub>, CO<sub>2</sub>, aerosol optical depth and meteorological parameters in this region which is free of anthropogenic influence. The results show that there has been a lot of diurnal and weekly variation of trace gases and sometimes high concentrations of surface ozone and NO<sub>2</sub> (Figure 1) during the period. We have used the NOAA-HYSPLIT model and found that there was long-range trace gases transport from Russian industrial regions to the South East region of Mongolia. It was also noted that general circulation and weather conditions affect the concentration of the trace gases.



**Figure 1.** Surface ozone and nitrogen dioxide concentration at Sainshand from 12-21 July 2007 .